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GUIDELINES ON COVID-19: PREVENTION AND CONTROL MEASURES FOR TRANSPORTATION OF PASSENGERS BY AIRLINES, DISINFECTION OF CARGO AND DISEMBARKATION BUSES

PREAMBLE

WHEREAS the World Health Organization (WHO) has, on 11 March 2020, declared COVID-19 a pandemic, pointing to the over 118,000 cases of the corona virus illness in over 110 countries and territories around the world and the sustained risk of further global spread;

WHEREAS the President of the Republic of South Africa has imposed a travel ban on foreign nationals from high-risk countries such as Italy, Iran, South Korea, Spain, Germany, the United States, the United Kingdom and China as from 18 March 2020;

WHEREAS the Minister of Cooperative Governance and Traditional Affairs has, on 15 March 2020 and in terms of section 27 of the Disaster Management Act, 2002 (Act No. 57 of 2002) issued a Declaration of a National Disaster and has classified COVID-19 as a National Disaster;

WHEREAS the Minister of Transport has, on 18 March 2020 and in terms of section 43(1)(h) of the International Air Services Act, 1993 (Act No. 60 of 1993) issued the International Air Services Regulations, 2020 ("the Regulations") to deal with the prohibition of embarkation and disembarkation of foreign nationals at international airports designated as ports of entry, improved hygiene control and disinfection facilities on international airports designated as ports of entry operated by licensed airport operator, cargo handling facilities, airport repair facilities, provider of airport maintenance or services, airport terminals, terminal operations and licensed airports operations; implementation of a tracking, tracing and monitoring system at airports and reporting and prohibition of holding of mass gatherings in and around airports;

AND WHEREAS the Minister of Transport has, on 18 March 2020 and under section 100(1)(a) of the Civil Aviation Act, 2009 (Act No. 13 of 2009) made a Ministerial Order (the Order) for the South African Civil Aviation Authority to take all the necessary steps

to give effect to the Order issued by the Minister, issue guidelines, monitor, oversee, enforce compliance and implement the International Air Services (COVID-19 restrictions on the movement of Persons and Crew) Regulations, 2020;

WHEREAS the Minister has, on 26 March 2020 issued Directions in terms of regulation 10 (7) of the Disaster Management Act, 2002 (Act No. 57 of 2002) in order to provide for International and Domestic passenger flight prohibition, conditions on cargo flights entering the country, improved hygiene control and disinfection facilities on international airports designated as ports of entry operated by licensed airport operator, cargo handling facility, airports repair facilities, provider of airports maintenance or services, airport terminals, terminal operations and licensed airports operations and oversight responsibilities;

RECOGNISING THAT the Minister has, on 31 March 2020 amended the Directions issued in terms of the Disaster Management Act, 2002 (Act No. 57 of 2002) in order to provide for international, domestic passenger flight, cargo transportation, technical flight, crew, medical evacuation, evacuation and repatriation of persons and technical flights;

AND THAT pursuant to Regulation (4)(7), 20(1) and (2) of the Disaster Management Regulations, 2020 the Minister issued Directions on 04 May 2020 to provide for measures necessary to address, prevent and combat the spread of COVID-19 as well as to permit some aviation operations in order to support the eased economic activities within the Republic;

WHEREFORE, IN ORDER TO prevent and control the spread of COVID-19 and ensure compliance with the Regulations, the Ministerial Order and the Minister's Directions, as amended, in respect of the COVID-19 pandemic, and in the interest of aviation safety, the Director of Civil Aviation issues the Guideline hereunder to the South African Civil Aviation Industry.

1. REFERENCE MATERIAL

- a) World Health Organization;
- b) Civil Aviation Administration, China;
- c) Qantas Airline;
- d) WHO Sanitary Measures in Aviation;
- e) Airbus Document;
- f) SAA Team;
- g) Centre for Disease Control;
- h) IATA;
- i) NICD; and
- j) Others.

2. BACKGROUND AND APPLICABILITY

- 2.1 In order to prevent and control the spread of COVID-19 through aircraft and air transportation, and act in accordance with the principle of “targeted and detailed prevention and control measures”, the multi-level, categorised and differentiated management of outbreak containment for air transport is implemented.
- 2.2 In order to further refine personal prevention and protection requirements for crew members, maintenance personnel and cleaning staff, it is crucial to improve requirements on environment hygiene, disinfection and maintenance for aircraft, and introduce prevention and control measures for airlines in South Africa.
- 2.3 The South African Civil Aviation Authority (“SACAA”) Inspectors are empowered to conduct audits on a charter/airline operator prior to departure and upon arrival to ensure that all legislative requirements are met. Air Operators are required to submit their procedures demonstrating how they will comply with COVID-19 requirements, for approval to the SACAA prior to undertaking any operation.
- 2.4 Categories of persons to which the Guidelines apply include airlines and charter operators, crew, passengers, Ports Health Authority, airside and airport personnel.

DOCUMENTS REQUIRED TRASPORTATION OF PASSENGERS BY AIRLINES, DISINFECTION OF CARGO AND DISEMBARKATION BUSES

- 2.5 Airlines or Charter Operators are required to ensure that there are Passenger Locator Forms on board an aircraft that will be issued to the suspected cases and the contacts surrounding the suspected case. These forms should be completed by the passengers while seated and collected by the Ports Health Authorities.
- 2.6 Airlines or Charter Operators are required to release the Passenger Manifest to the Department of Health or the South African Civil Aviation Authority with immediate effect once required, to ensure that suspected cases are followed-up.
- 2.7 Airlines or Charter Operators must issue passengers from risk areas with the National Department of Health’s Questionnaires for completion which will be collected and analysed by the Ports Health Authorities.
- 2.8 Airlines or Charter Operators are required to ensure that cabin crew are trained in identifying suspected cases of communicable disease and the management thereof. The Airlines and Charter Operators must keep documentary evidence to prove that the required training has been conducted.

- 2.9 Airlines or Charter Operators are required to ensure that there is a communication procedure that tabulates a process to be followed by cabin crew to notify the pilot in command, the air traffic controller, airport authorities, Port Health Authority and all other relevant parties about communicable disease.
- 2.10 Airlines or Charter Operators, Airports and Air Traffic Controllers shall ensure that there is a business continuity plan addressing the pandemic preparedness.
- 2.11 Airlines or Charter Operators and Airports should ensure that airports provide sufficient measures such as additional air bridges to minimize traffic in highly populated areas. Documentary evidence to prove compliance should be made available when required.
- 2.12 Airlines or Charter Operators should develop procedures that demonstrate compliance and implementation of COVID-19 Regulations and submit them to SACAA for approval.
- 2.13 Airlines or Charter Operators should develop procedure for cleaning of high-use areas.
- 2.14 Airlines or Charter Operators may consider amendments to their procedures with regards to provisions relating to meal services, inflight duty-free sales and amenities.
- 2.15 Airlines procedures must be submitted to the CAA at least 3 working days for approval.

3. AIRFLOW ON-BOARD MODERN AIRCRAFT

- 3.1 All the air in modern aircraft cabins is, on average, completely changed every 3 minutes - even after taking into account of filtered and recirculated air. This is a much higher rate of flow than people experience in other indoor environments which means that passengers are provided with about 80 times as much air as they need to breathe. The air in modern aircraft cabins is a mix of fresh air drawn from outside, and air that has been passed through extremely efficient filters, which remove particles in the air down to the size of microscopic bacteria and virus clusters (with an efficiency of better than 99.99 per cent). These filters – called High- Efficiency-Particulate Arrestors (HEPA) – have been shown in tests to provide air that meets the standards set for hospital operating theatres. Modern aircrafts have reported that HEPA air recirculation filters capture viruses such as the Middle East Respiratory Syndrome (MERS) Corona virus and COVID-19 with extremely high efficiency.
- 3.2 In normal operation, less than a half of the air is filtered and recirculated - the rest is fresh air drawn in from outside. None of the air that is supplied to aircraft toilets, galleys and cargo-holds is filtered and re-circulated –instead it is dumped directly overboard. The air supply to the cabin comes in at the level of the overhead stowage compartments – from above or underneath them, depending on the modern aircraft type – and is extracted at floor level, which means that it is drawn down rather than going up. In general, the fresh air (from

outside) is mixed with recirculated air in a mixer unit and then this air is supplied to the cabin, and all occupied areas within the fuselage.

- 3.3 This means that there is no specific recirculation airflow entering the cabin that is separate from the fresh air flow. It is unlikely that recirculated air can spread COVID-19. As mentioned above, the airflow induced by the recirculation system is mixed with fresh air in the mixer unit, and the combined air enters the cabin through the air outlets. This airflow passes over the occupants as it passes towards the floor level where it is extracted. This air will then go overboard via the pressurisation outflow valves(s) or will pass through a HEPA filter for injection back into the mixer unit. Therefore, because the HEPA filters have an extremely high efficiency in capturing the Corona Virus, the recirculation airflow does not spread the COVID-19 throughout the cabin.

4. RISK AREAS FOR CONSIDERATION AT AIRPORTS & AIRLINES

- a) En-route to the airport by public transport;
- b) Before boarding the aircraft;
- c) Security check-in point;
- d) In line at the check-in counter;
- e) Waiting in the gate area;
- f) Access to the aircraft via “jet ways” or transport to the aircraft by bus; and
- g) Other crowded and confined spaces.

5. TEMPERATURE SCREENING AND PRE-SCREENING OF PASSENGERS ON BOARDING

- 5.1 Non-contact infrared thermometer equipment (calibrated) should be used to measure the body temperature of passengers and crew before boarding. A timely report and response should be made in case of suspected passengers found with symptoms including fever and temperature of ($\geq 37.5^{\circ}\text{C}$) depending on the type and settings equipment, fatigue or dry cough. The following types of screening should be utilized by airlines/charter operators in the different operations in consultation with Ports Health Authorities, a procedure for the screening must be developed and employees must be trained when conducting the following screening:

- a) Visual Screening;
- b) Brief History Taking; and
- c) Temperature Measurement using thermal scanners.

- 5.2 It is advised to delay the travel of suspected ill passenger detected through screening and such passengers should be referred for further evaluation and treatment by Ports Health or Medical Personnel where necessary.

- 5.3 Air Operators should ensure that there is screening in the form of visual, interviews or questionnaire conducted by checking agent, security and at boarding gates at all times.

- 5.4 Confirmed or suspected cases or those who can pose potential health risks shall not be transported on the same aircraft that carries healthy passengers.
- 5.5 In general, persons that have had close contact with suspected or confirmed cases shall not be transported unless cleared by the Ports Health Authority or Medical Personnel.
- 5.6 Information for passengers with other medical conditions should be made available to the airline or charter operator, in advance, so that arrangements can be made to provide medical support (crew or equipment) or determine whether or not the passenger requires medical support.
- 5.7 Advanced communication, coordination and planning with the responsible authorities should be made before departure.
- 5.8 Cabin Crew suffering from high risk medical conditions are not advised to participate on operations and repatriation missions;
- 5.9 The cabin crew should be properly trained or briefed on the signs and symptoms to detect passengers symptomatic of COVID-19 and should be provided with appropriate Personal Protective equipment (PPE).

6. GENERAL ISSUES OF CONSIDERATION AND COMPLIANCE BY AIR OPERATORS

- 6.1 Passengers are required to wear a facial mask (cloth or surgical) prior to entering the airport and throughout the journey.
- 6.2 Current evidence still supports the fact that the mainstay of COVID-19 is spreading by respiratory droplets of infected persons. There are reports of transmission by asymptomatic persons infected with COVID-19.
- 6.3 Wearing a face mask is one of the preventative measures that can limit the spread of COVID-19. However, the use of a face mask alone is not enough to provide an adequate level of protection.
- 6.4 Hand hygiene and avoiding mouth, eyes and nose contact with contaminated hands remain as one of the key prevention methods.
- 6.5 Air operators are to carry out frequent disinfection (sanitising) of the aircraft before entering into service and after each flight and provide the operating crew with adequate Personal Protective Equipment (PPE), together with detailed instructions on the handling and disposal of used PPE.
- 6.6 Crew identified as having had close contact with a positive COVID-19 case may have to be relieved from the flight duty roster for 14 days from the date of exposure and follow the local Public Health Authorities' instructions.

- 6.7 Crew who display any symptoms of respiratory tract infection, even if mild, or has a fever with a temperature exceeding 37.5 degrees Celsius or presenting with a persistent cough or difficulty breathing, or feeling unwell in any way, must be relieved from flight duties, self-isolate and seek medical treatment immediately.
- 6.8 Crew must always adopt social distancing (minimum 1.5 meters) practices, including both when on and off duty.
- 6.9 All passengers upon entrance into the airport must always maintain a distance of 1.5 meter apart until boarding.
- 6.10 Access on-board of the aircraft by authorised personnel (e.g. ground handlers, dispatchers, cabin crew) shall be allowed only if they are wearing appropriate PPE.
- 6.11 Appropriate crewing and scheduling should be adopted to ensure that crew is not unduly fatigued during the operating pattern that they embark on. Air operators should review current fatigue management policies to ensure that these reflect any new constraints, such as reduced opportunities for crew rest, meals, etc. at destination airports or on positioning flights or changes to procedures such as reduced duration of layovers.
- 6.12 On reporting for duty, crew members must declare that they are asymptomatic and must have their temperature taken and air operators must remind crew that any symptoms of COVID-19, including a fever, renders them unfit for duty.
- 6.13 Disinfection of the cockpit controls and surfaces must be conducted before the flight crew changes and this disinfection must be done with a material that is effective against COVID-19 and safe for aviation use.
- 6.14 Cockpit crew may remove their face mask when they are in the cockpit and doors are closed.
- 6.15 Cabin crew members must wear a face mask for the duration of the flight, and disposable gloves when handling service items and frequent hand hygiene measures should be performed. If gloves are used, after the service in the passenger cabin, the gloves should be changed or, as a minimum, disinfected.
- 6.16 Air operators are required to ensure that suitable face masks for cabin crew are made available, which must be donned by crew while using public transportation to commute.
- 6.17 Crew Members should avoid dining at the same time or in close proximity of each other, choose pre-packaged food to the greatest extent possible, and wash their hands with soap or use rinse-free hand sanitiser to clean and disinfect hands before meals.

- 6.18 Safety regulations require passenger pre-flight safety briefings, including demonstration of certain pieces of emergency equipment by cabin crew. If an air operator does not utilise a video briefing format, allowances should be made to discontinue physical demonstrations of seat belts, oxygen masks and flotation equipment to limit possible contact transmission. A verbal briefing is still required.
- 6.19 Cabin crew should minimise all non-essential interaction with passengers and contact with passengers' belongings, as far as practicable.
- 6.20 Positioning crew members are to be assigned seats in designated sections of the aircraft and should be, as much as possible, segregated from the rest of the passengers for the entire duration of the flight.
- 6.21 Crew must complete all post-flight formalities while observing social distancing measures, cabin crew must wear a face mask and avoid close contact with passengers, their belongings and observe social distancing measures.
- 6.22 If crew members are required to disembark during the flight turnaround, they should observe social distancing measures.
- 6.23 Crew with confirmed COVID-19 infection will require a medical certificate declaration by the Medical Assessors of the Civil Aviation Authority before returning to duty.
- 6.24 Where testing is available, cabin crew with a positive test result will not be permitted to operate even if they are not displaying symptoms of the disease.
- 6.25 A safety risk assessment should be undertaken by the operator to determine the impact of PPE on cabin crew safety duties and any additional mitigations which might be necessary. Suggested risks include but are not limited to:
 - a) Use of oxygen masks;
 - b) Use of fire extinguishers and Protective Breathing Equipment (PBE);
 - c) Additional flammability risks;
 - d) Use of communication systems and procedures; and
 - e) Evacuation procedures and the need for cabin crew to be easily recognizable by passengers.
- 6.26 Masks should be removed during an emergency which requires the use of oxygen or protective breathing equipment for firefighting.
- 6.27 Where possible, physical distancing of cabin crew positions during boarding may need to be altered, for example in areas such as over wing exits where it is not possible to maintain a suitable distance from passengers during boarding.
- 6.28 Depending on passenger booking figures, airlines with pre-assigned seating procedures may wish to consider physical distancing requirements within seating assignment systems.

- 6.29 Airlines who do not have pre-assigned seating should ensure cabin crew monitor passengers' seat choices during boarding, so that passengers are spread throughout the cabin as necessary.
- 6.30 During disembarkation, cabin crew may be required to limit the number of passengers standing to retrieve personal belongings and to manage the number of passengers disembarking simultaneously, in order to ensure physical distancing is possible while on the steps/airbridges.
- 6.31 Some passengers with disabilities may be more vulnerable to infection and will likely seek additional reassurance that measures are in place to prevent transmission of infection from those who are assisting them, before they are able to travel.
- 6.32 Airlines should be mindful of this and may need to consider additional measures within their acceptance procedures for such passengers, so that precautions can be taken to protect them.
- 6.33 Where onboard wheelchairs are provided, airlines should consider additional cleaning procedures to ensure they are disinfected between each use.
- 6.34 Air Operators should facilitate boarding of passengers in small groups en-route to the aircraft.
- 6.35 Air Operators should ensure that passengers and crew sanitise frequently.
- 6.36 Air Operators should ensure that no food will be served during the flight except bottled water and no magazines or newspapers will be offered on board the aircraft.

7. PASSENGER AID UNITS FOR PASSENGERS WITH DISABILITIES

- 7.1 If assistance is required to escort a sick passenger, airlines should provide a Passenger Aid Unit (PAU) and escort. The following PPE should be provided to passenger aid unit escorts and they should be trained to identify symptoms and signs of COVID-19:
 - a) Surgical Masks;
 - b) Disposable gloves; and
 - c) Hand Sanitiser.
- 7.2 Some passengers with disabilities may be more vulnerable to infection.
- 7.3 Where onboard wheelchairs are provided, airlines should consider additional cleaning procedures to ensure that they are disinfected between each use.

8. RAMP HANDLING

- 8.1 When an aircraft arrives with a possible COVID-19 passenger or with an affected passenger and Ramp Buses are required, assess the situation beforehand and adhere to the following:
- a) Provide and identify a limited number of buses for that service;
 - b) Use the same buses for the whole disembarkation service and disinfect once the process is finalised; and
 - c) Limit the number of passengers in the bus.
- 8.2 Air Operator must develop a communication protocol between the ground personnel and cockpit crew to avoid direct contact e.g., the Ramp Agent communicates with Cockpit through headsets to advise:
- a) The stairs at door have been securely placed;
 - b) The Ramp Agent will confirm the stair is secured and safe for disembarkation;
 - c) They will agree on number of passengers to disembark at the given time.
 - d) A hand signal shall be provided by both the cabin crew and ground crew once the agreed limits are reached to maintain the “social distancing”; and
 - e) Once the process is agreed, the buses and boarding devices shall be disinfected prior to being used for the next process to ensure the risk of infection is avoided between the ground personnel on the one hand and the passengers and crew from a flight with an infected person on the other hand.
 - f) The Air Operator must ensure that Disinfection is done thoroughly.

9. PHYSICAL DISTANCING ON-BOARD AND OTHER PREVENTATIVE MEASURES

- 9.1 Onboard an aircraft, it is difficult to achieve 1.5 meter physical distancing and the cabin itself provides the following protections within the layout and systems:
- a) The physical barrier of seat backs, in most cases the seating arrangement does not provide face-to-face seating positions;
 - b) There is information available to suggest that such use of face coverings is effective at reducing droplet spread, and this is of potential benefit where physical distancing cannot be achieved;
 - c) The direction of airflow from ceiling to floor reduces forward and aft movement of air; and
 - d) The installation of HEPA filters on newer aircraft types to help clean recirculated air is effective in minimising the spread of COVID-19.
- 9.2 Air Operators should ensure that:
- a) They have increased cleaning programs for all frequently touched points in the cabin;
 - b) There is frequent use of sanitisation materials effective against COVID-19; and
 - c) They should also manage passenger boarding and disembarkation carefully and in a manner that minimises person to person contact and avoid passengers from obstructing each other while getting to seats.

9.3 Crew should ensure that:

- a) There is limited passenger movement during flight, including the use of lavatories and alteration of inflight services to reduce movement in the cabin; and
- b) Children are seated adjacent to their guardians who are responsible for them so that during a depressurisation can fit their oxygen masks for them while remaining seated with their seatbelt fastened.

10. FACE COVERINGS AND/OR MASKS FOR PASSENGERS AND CREW

- a) Passengers and crew must always wear masks during flight. The suitable cloth face coverings masks are recommended and not surgical masks or N-95 respirators for passengers;
- b) Appropriate PPE (e.g. masks) for airline and airport staff while infection transmission is ongoing should be provided;
- c) Passengers and crew are reminded to dispose of used PPE safely and hygienically. During emergencies masks must be removed; and
- d) Consideration must be made for passengers with dementia, autism, difficulty breathing and other conditions as they will not be able to tolerate face masks.

11. SAFETY DEMONSTRATION & PASSENGER ANNOUNCEMENT

- 11.1 Passenger announcements including guidance aimed at prevention of COVID-19, including cough/sneeze etiquette, requirements for wearing face coverings or masks or any other measures should be included during announcements.
- 11.2 Passengers should be reminded within safety briefings of the need to remove facial masks in the event of a depressurisation before fitting oxygen masks.
- 11.3 Manual safety demonstration equipment should be sanitised before each use.
- 11.4 It is recommended that procedures be reviewed to ensure that cabin crew are not required to place demonstration equipment such as oxygen masks and life vest mouthpieces to their mouth and nose.
- 11.5 When demonstrating the use of oxygen masks, passengers should be reminded that protective facial masks if worn, should be removed.

12. AIR OPERATOR'S RISK ASSESSMENT OF ROUTES

- 12.1 Operators must conduct risk assessment and they must consider classifying each route for the level of its risk of exposure to COVID-19 in order to determine

whether additional mitigations are required in relation to services, policies or procedures.

- 12.2 The risk levels will inform the frequency and type of COVID-19 preventative risk mitigation measures to be embarked upon.

12.3 RISK SCORING CRITERIA

Local Transmission	Booked passenger load (%)	Duration of flight (hrs)
> 50 Score = 1	0 > 60% Score = 1	0 > 4 Score = 1
51 > 100 Score = 2	61 > 80% Score = 2	> 4 Score = 2
> 100 Score = 3	> 80% Score = 3	

12.4 RISK SCORE

- a) Low Risk =3-4
- b) Medium Risk=5-6
- c) High Risk =7-8

13. DANGEROUS GOODS CONSIDERATIONS (SANITISERS)

- 13.1 Alcohol-based hand sanitising products can be used in addition to, but not in place of regular and thorough hand washing.
- 13.2 Air Operators that wish to add alcohol-based hand sanitiser to the items carried in galleys or installed in lavatories will need to request authorisation from their civil aviation authority (State of the Operator) in accordance with the provision that is set out in Part 1, 2.2.1(a) of the ICAO Technical Instructions.
- 13.3 It is recommended that the request for authorisation should address the following:
- a) The classification and UN number of the hand sanitiser. For example, UN 1987, alcohols, n.o.s. (ethyl alcohol mixture), UN 1170, Ethanol solution. However, the safety data sheet from the manufacturer of the hand sanitiser should be checked for the classification;
 - b) The quantity of hand sanitiser in each container and the number of containers to be carried on the aircraft;
 - c) What steps will be taken to ensure that the hand sanitizer is kept away from sources of heat or ignition;

- d) Provision of information to crew members on the carriage of the hand sanitizer and for example, that crew members will be advised on the procedures through a bulletin or other appropriate method;
- e) Hand sanitisers containing alcohol must not be installed or carried adjacent to any source of heat, such as ovens, water heaters, inflight entertainment systems, etc.; and
- f) An Alcohol-based hand sanitiser is acceptable under the provisions of 2.3.5.1 of the IATA Dangerous Goods Regulations, however, it should be noted that, where passengers or crew wish to have a hand sanitiser in their carry-on baggage, the limit of 100 ml or equivalent per item for liquids and gels in accordance with the aviation security provisions, applies.

13.4 Ideally dedicated crew channels at airports must facilitate the operating and positioning crew in clearing customs and immigration services in order to minimize contact with other travellers as far as possible.

14. CABIN SCHEDULING

14.1 Airlines and Charter Operators should:

- a) Ensure risk mitigations when scheduling crew members by mixing experience and licence validities among the cabin crew on any given flight;
- b) Consider temporarily increasing the number of standby cabin crew;
- c) Provide crew transportation arrangements which separate crew members from public, ensure avoidance of public transport and avoidance of public places and encourage confinement to hotel room (isolation) while consuming room service meals/refreshments en-route to airport and hotel; and
- d) Consider that cabin crew who have recovered from COVID-19- may experience a loss of smell and/or taste (anosmia) affecting their ability to identify unusual smells within the cabin such as leakage of dangerous goods/chemicals and overheating/burning.

15. CREW POSITIONING AND FLIGHT DUTY TIME

The following should be considered in the planning process:

- a) Where cabin crew are required to remain on board the aircraft during extended turnarounds, power lighting and heating/cooling should remain available at all times;
- b) Seating allocation on commercial flights should enable cabin crew to rest as appropriate;
- c) When positioned outside of the maximum permitted Flight Time limitations, cabin crew should not be assigned any safety related duties on board.

- d) Exemptions may be applied for and granted by regulators and these are normally dependent on risk assessment and identification of potential mitigations aimed at preventing the onset of fatigue.

16. CREW INFECTED WITH COVID-19

- 16.1 Crew with symptoms or positive must be relieved from duties.
- 16.2 Additional health restrictions may apply for repatriation of cabin crew members who become infected while on duty including quarantine and/or reporting infection.

17. UNIVERSAL PRECAUTION KITS ON BOARD AN AIRCRAFT

- 17.1 Air Operators should ensure that there are Universal Precaution Kits on board all aircraft in line with Part 121.05.13 of the South African Civil Aviation Regulations, 2011 and associated Technical Standards.
- 17.2 The Universal Precaution Kits should be used for the management of suspected cases of communicable diseases on board an aircraft.
- 17.3 Where Air Operators are required, or choose to, provide full protective clothing, goggles or visors to cabin crew, the safety risk assessment should determine any impact such clothing may have on the cabin crews' ability to carry out both normal and emergency procedures.
- 17.4 The following areas should be carefully reviewed to identify whether additional procedures are required to mitigate the risks:
 - a) The flammability of protective clothing and any mitigations to protect cabin crew during firefighting; and
 - b) The impact of wearing visors, goggles or other headgear and the ability of the wearer to use portable breathing equipment, oxygen masks, interphone systems, during evacuation.

17.5 Content of Universal Precaution Kit:

- a) Dry powder that can convert small liquid spill into a granulated gel;
- b) Germicidal disinfectant for surface cleaning;
- c) Skin wipes;
- d) Face or eye mask (separate or combined);
- e) Gloves (disposable);
- f) Impermeable full-length long-sleeved gown that fastens at the back;
- g) Large absorbent towel;
- h) Pick-up scoop with scraper;
- i) Bio-hazard disposal waste bag; and
- j) Non-Mercury Thermometer.

18. FIRST AID KITS & MEDICAL DOCTORS' BAGS

- 18.1 Airlines and charter operators should ensure that there are First Aid Kits and Medical Doctors' bags on board all aircraft in line with Part 121.05.13 of the South African Civil Aviation Regulations, 2011 and associated Technical Standards. This requirement is applicable to all special international transportation missions.

19. CONTENT OF TRAINING OF CABIN CREW

- 19.1 Flight deck/Cockpit crew and Cabin crew must be trained and must sign confirmation to the fact that they have been trained and they understood the infection control protocol. Training must take place before departure and daily briefing on the content of training should take place prior to each shift. The training should entail:
- a) Basic Understanding of COVID-19 (what it is, how it spreads, other related issues);
 - b) Use of PPE;
 - c) Respiratory etiquette;
 - d) Cleaning of toilets;
 - e) Environmental cleaning;
 - f) Crew temperature testing and physical examination post mission;
 - g) Hand hygiene; and
 - h) Donning and doffing.

20. PROPER REMOVAL OF GLOVES



21. PROPER DONNING OF THE MASK



22. MANAGEMENT OF A SICK CREW MEMBERS ON BOARD

- 22.1 Crew members who are symptomatic with fever, cough or difficulty breathing should immediately inform the Cabin Crew Supervisor.
- 22.2 If a crew member develops symptoms during flight, they discontinue work duties as soon as it is safe to do so and follow the procedures outlined for sick passengers.

- 22.3 Cabin crew should not prepare or serve food or beverages if they have symptoms of illness that could be communicable in nature.
- 22.4 If the crew member is identified on board an aircraft, and presents with symptoms suggestive of COVID-19, the crew must be placed at the high-risk area of the aircraft.
- 22.5 Contact tracing forms of all the crew and passengers exposed to the crew member must be completed to assist with following-up of the possible exposed.
- 22.6 Commonly touched surfaces of the lavatories (faucet, door handles, waste-bin cover, countertop, etc) must be cleaned and disinfected after each use by the ill passenger.
- 22.7 If the ill crew is coughing, request him or her to follow respiratory etiquette.
- 22.8 Non-exposed crew members will need to monitor their health condition immediately after travel, instead of being quarantined.
- 22.9 Once the quarantined crew member is found to have any symptoms, the airline operator should report to the local health authority immediately and send the quarantined crew member to the designated medical care facility.
- 22.10 Exposed crew members should be quarantined after carriage of confirmed positive case (whether symptomatic or asymptomatic) or after contact with suspected patients within the last 14 days.

23. MANAGEMENT OF ON-BOARD PASSENGER EMERGENCY QUARANTINE MEASURES

- 23.1 It is recommended that Air Operators should leave the last 3 seat rows depending on the type of aircraft for emergency quarantine.
- 23.2 Airlines should make available both a surgical mask for suspected case and a medical protective surgical mask or masks with high filtration quality approved by the South African Bureau Standards for cabin crew and all crew should be trained in infection control measures. The following process is recommended for cabin crew:
 - a) Exercise universal precaution in order to minimise risk of acquiring a communicable disease by donning the Universal Precaution Kits;
 - b) Wash hands often with soap and water for at least 20 seconds after assisting sick passengers or touching potentially contaminated body fluids or surfaces;
 - c) Use an alcohol-based hand sanitiser (containing at least 70% alcohol) if soap and water are not available;
 - d) Designate one crew member to assist the sick person throughout the flight;
 - e) If the hands become visibly soiled, they must be washed with soap and water or hand sanitisers;
 - f) Provide an air-sick bag to be used for the safe disposal of tissues;

- g) Ask accompanying passenger(s) (spouse, children, friends, etc.) if they have any similar symptoms, the same procedure should be followed for all ill passengers;
- h) Minimise contact between passengers and cabin crew and the sick person and if possible, separate the ill person from the other passengers by minimum of 1-2 meter (usually about two seats left empty in all directions, depending on the cabin design) from the seat occupied by the suspected case. Where possible this should be done by moving other passengers away;
- i) Offer a facemask if the sick person can tolerate it and if a face mask cannot be tolerated by the sick person, request the sick person to cover their mouth and nose with tissues when coughing or sneezing;
- j) If the sick passenger is unable to tolerate the mask, ensure that the passengers sitting 2 rows in front, 2 rows behind and a 1 meter are provided with and must wear a mask;
- k) If possible, cabin crew must designate one toilet for use only by the ill person;
- l) Ai Operators must ensure that there are enough passenger locator forms and crew must remember to issue passenger locator forms to the passengers sitting 2 rows in front and behind the suspected cases, which will be collected by the Ports Health Authorities at the destination airport;
- m) Cabin crew must treat all body fluids (such as respiratory secretions, diarrheal, vomit, or blood) as if they are infectious;
- n) Ambulance transport personnel should routinely perform hand hygiene and wear a medical mask, eye protection, gloves, and gown when loading suspected COVID-19 patients into the ambulance;
- o) If more than one suspected case is being disembarked, personnel and health personnel should change their PPE between each patient to avoid possible cross-contamination; and
- p) Crew must ensure that they dispose of the used PPE appropriately in containers with a lid in accordance with national regulations for infectious waste.

24. STANDARD DISINFECTION PROCEDURES ON BOARD AN AIRCRAFT BY CABIN CREW

24.1 The medical personnel/ cabin crew disinfecting the aircraft and the lavatory where body fluids are involved should wear and use the following minimum PPE:

- a) Face or eye mask (separate or combined);
- b) Impermeable full-length long-sleeved gown that fastens at the back;
- c) Disposable mop cap;
- d) Goggles;
- e) Medical rubber gloves and disposable shoe covers, uniform, disposable snood cap, disposable rubber gloves, work shoes (as necessary), waterproof apron and protections against chemicals such as disinfectants;
- f) Large absorbent towel;
- g) Pick-up scoop with scraper; and

- h) Bio-hazard disposal waste bag.

25. DISINFECTION OF SURFACES ON BOARD AN AIRCRAFT

25.1 WHO recommends that the disinfection products should have a label claim against corona viruses. Preventative disinfection should be done on a regular basis, the lavatories should be cleaned and disinfected by the cabin crew immediately if there is a sick passenger on board who uses the facility and if there are possible contaminated fluids such as vomit and others. Preventative disinfection should comprise of the following but not limited to:

- a) Cabin crew must don universal precaution kits;
- b) Cabin crew should open a biohazard bag and place it near the site of contamination and if a biohazard bag is not available, label a regular waste bag as “biohazard”, Air Operators should ensure that these bags are available;
- c) Cabin Crew should cover the respiratory secretions, blood, vomit, diarrhoea and other contaminants evenly with absorbent disinfectant for 3-5 minutes to enable them to solidify;
- d) Sterilising the contaminated area with pre-prepared disinfectant, making sure disinfectant stays at the contaminated surface for 3-5 minutes, then washing the area with clean water for three times before drying the area with towels;
- e) Shovelling the coagulated contaminants with portable pickup shovels into biohazard wastes bags;
- f) Place those towels and other used disinfection materials into biohazard wastes bags;
- g) Disinfect hands before removing protections by the following order: taking off protective suits (aprons) and gloves; applying skin disinfection wipe for hand disinfection; then taking off goggles, facial masks; and at last, applying skin disinfection wipe to clean hands and other parts of the body that may have been exposed to contaminants;
- h) Place all used protections and contaminated items inside a biohazard wastes bag, closing the bag, filling a label with “Biohazard Waste”, then tagging it on the seal;
- i) Keep the tied biohazard waste bag in a proper place temporarily to prevent it from missing, being damaged or contaminating meals on board; and
- j) Inform the ground departments at the destination to prepare for takeover.

25.2 The following surfaces should be cleaned and then disinfected:

- a) The seat of the suspected case(s);
- b) Adjacent seat(s) in the same row; and
- c) Adjacent row(s) and other areas, as noted below:
 - (i) Seat area;
 - (ii) Armrests;
 - (iii) Seatbacks (the plastic and/or metal part);

- (iv) Tray tables;
- (v) Seatbelt latches;
- (vi) Light and air controls, cabin crew call button and overhead compartment handles;
- (vii) Adjacent walls and windows;
- (viii) Individual video monitor(s); and
- (ix) Clean the area of soil (remove solids and soak up liquid waste).

26. IDENTIFICATION AND MANAGEMENT OF CONTACTS

- 26.1 The identification of contacts should begin immediately after a suspected case has been identified on board.
- 26.2 Air Operators should avail the passenger manifest as soon as they are requested by either the Ports Health Authority or the SACAA (Flight Operations or Medical Department) to facilitate immediate follow-up of contacts.
- 26.3 Applying the general definition of a contact to the specific context of an aircraft, a contact in an aircraft can be identified as follows:
- a) Any person sitting within 2 metres of the suspected case;
 - b) Any travel companions or persons providing care who had close contact with the suspected case;
 - c) Any cabin crew member designated to look after the ill traveller(s), and crew members serving in the section of the aircraft where the suspected case(s) was seated;
 - d) Cockpit crew are not a concern if they have not circulated into the cabin and come close to the ill traveller(s);
 - e) If the severity of the symptoms or numerous movements of the case(s) indicate more extensive exposure, passengers seated in the entire section; or
 - f) depending on aircraft design and assessment on arrival by Airport Health Authorities, all passengers on the aircraft may be considered contacts.
- 26.4 Upon landing and arrival at the airport, the suspected case(s) and their identified contacts should be kept under public health observation at the airport until they are able to be safely assessed for risks and advised or transferred according to public health advice;
- 26.5 If the laboratory result of the suspected case is positive, then all other passengers onboard the aircraft who do not fulfil the definition of a contact may be considered as having low-risk exposure and may be advised to implement precautionary measures.
- 26.6 These passengers should be asked to self-monitor for COVID-19 symptoms, including fever, cough, or difficulty breathing, for 14 days from the date of the flight, if they do present with these symptoms, they should consult their medical practitioner and relay the message that they were on-board with a suspected case.

- 26.7 During short layovers, special disinfection attention should be given to the zone of risk in the cabin area (e.g. seats, headrests, table tops, handsets, windows, window shades, video monitors and other materials coming in contact with the suspected case) where the case(s) was originally and finally seated and surroundings including the lavatory used by the ill travellers(s) as well as all shared facilities and high-touch surfaces.
- 26.8 The service staff who clean and disinfect the aircraft should be trained to be able to apply the standard procedures for cleaning and disinfecting contaminated surfaces with infectious agents suitable for aircraft, using the appropriate PPE.

27. COMMUNICATION

- 27.1 It is important that Air Operators ensure that there are regular briefs and updates to all employees including all operational staff.
- 27.2 Use simple, clear messaging to explain guidelines using images and clear language, with consideration of groups for which English may not be their first language. The briefing should include but not be limited to:
- a) New or amended procedures during the COVID-19;
 - b) Organizational and management changes and updates;
 - c) The compliance to COVID-19 policies relating to their health and safety;
 - d) Provide clear guidance on social distancing and hygiene to people on arrival, for example, signage or visual aids and before arrival, for example, by phone, on the website or by email; and
 - e) Use visual communications, for example, whiteboards or signage, to explain changes to schedules breakdowns or materials shortages to reduce the need for face-to-face communications.

28. CABIN AREA DIVISION

- 28.1 Flight attendance of passengers in different cabin areas shall be managed separately and provided with separate in-flight services. The flight crew working area, passenger sitting area and quarantine area for ill passengers on an aircraft shall be served by different cabin crew. In principle, cabin crew are not allowed to leave the area they serve, and they should avoid close contact with passengers or other flight and cabin crew.
- 28.2 There shall be no catering on board an aircraft, except for bottled water.
- 28.3 The Lavatory should be cleaned every 2 hours (or anytime considered necessary, similarly, hereinafter) during flight, and once finished, hands should be timely cleaned and disinfected.

- 28.4 Cabin crew members are to be assigned to designated sections of the aircraft for the duration of the flight and should remain at their designated sections during the course of their duty, as far as practicable, except when required to respond to an in-flight emergency.
- 28.5 Cabin crew members should manage each cabin area separately and prohibit passengers from moving across different areas. Passengers sitting in different cabin areas should embark and disembark in separate groups.

29. DISINFECTION OF THE AIRCRAFT AFTER LANDING

- 29.1 Disinfection measures should be implemented to control or kill infectious agents on a human or animal body, on a surface or in or on baggage, cargo, containers, conveyances, goods and postal parcels by direct exposure to chemical or physical agents.
- 29.2 Disposable PPE should be treated as potentially infectious material and disposed in accordance with national rules.
- 29.3 Non-single use PPE should be decontaminated using the available products (e.g. 0.1% sodium hypochlorite or 70% ethanol).
- 29.4 The following PPE items are suggested for use when cleaning facilities likely to be contaminated by COVID-19:
- a) Filtering Face Pieces (FFP) respirators, class 2 or 3 (FFP2 or FFP3)
 - b) Goggles or face shield;
 - c) Disposable long-sleeved water-resistant gown; and
 - d) Disposable gloves.
- 29.5 Every aircraft must undergo cleaning process based on the applicable Standard Cleaning Procedure (SOP) submitted to the SACAA after each flight and before next departure.
- 29.6 In case of a suspicious or confirmed passenger suffering a highly infectious disease, a special, additional disinfection of the aircraft is mandatory and the release of the aircraft should be made by the Ports Health Authorities.
- 29.7 For this purpose, all used disinfectants must be aircraft component compatible and must not have any negative effects on individual parts or the structure of the aircraft, while also fulfilling national healthcare requirements.
- 29.8 The following are some of the aircraft disinfectant attributes that should be considered prior to use:
- a) Safety of active ingredients for humans;
 - b) Environmental safety spectrum of micro biocidal activity;

- c) Transport, storage and inventory control directions for use;
- d) Speed of activity (affects the release of the aircraft) and other attributes, in line with World Health Organisation recommendations; and
- e) COVID-19 has an envelope and is susceptible to be destroyed by substances that contain 70% alcohol such as quaternary ammonium compounds.

29.9 The following procedure must be used when cleaning the lavatory:

- a) Change gloves that become visibly soiled;
- b) Remove any affected portion of carpet;
- c) Rinse the surface with water, and dry;
- d) Put all paper towels into the biohazard bag;
- e) Remove gloves and place them into the biohazard bag;
- f) Seal the used biohazard bag and ensure its proper transport and final disposal;
- g) When cleaning and disinfecting are complete, and gloves have been removed, immediately clean hands with soap and water or an alcohol-based hand rub;
- h) Avoid touching the face with gloves or unwashed hands;
- i) Do not use compressed air or water under pressure for cleaning, or any other methods that can cause splashing or might aerosolize infectious material;
- j) Vacuum cleaners should be used only after proper disinfection has taken place; and
- k) Operation of the aircraft's environmental control system at least until the suspect traveller has disembarked or until the disembarkation process is complete may also contribute to interrupting transmission of infectious material and should be performed if consistent with safety factors, otherwise ventilation should be provided from a ground source.

29.10 For hard (nonporous) surfaces such as tray tables, TV monitors, seat arms, windows, and walls. Remove any visible contamination and clean and disinfect the area with products approved by the manufacturer of the aircraft. For soft (porous) surfaces such as carpeted floor or seat cushions: remove as much of the contaminant as possible, cover the area with an absorbent substance, and contain the area as much as possible.

29.11 The following surfaces should be cleaned and then disinfected at the seat of the suspected case(s), adjacent seat(s) in the same row, adjacent row(s) and other areas, as noted below:

- a) Seat area;
- b) Armrests;
- c) Seatbacks (the plastic or metal part);
- d) Tray tables;
- e) Seatbelt latches;
- f) Light and air controls, cabin crew call button and overhead compartment handles;
- g) Adjacent walls and windows;
- h) Individual video monitor; and

i) The soiled area (remove solids and soak up liquid waste).

29.12 After carriage of ill passengers, terminal disinfection should be conducted. After all people get off the aircraft, close cabin doors, adjust the air conditioning to high-volume to complete all-round air exchange. Once the air exchange is finished, first the sitting area of ill passengers and lavatory should be disinfected, then clean other areas in accordance with the post-flight cleaning requirements. After cleaning, one should proceed with terminal disinfection by following the general principle of thorough disinfection from out ring-to-centre, top-down and encompassing-approach.

29.13 Aircraft cleaning and disinfection products should be approved for the SACAA (Airworthiness) and during terminal disinfection, the passenger cabin should be wiped while the cargo hold should be sprayed with disinfectant.

30. LAVATORIES

- a) Lavatory or lavatories used by the sick traveller: door handle, locking device, toilet seat, faucet (tap), washbasin, adjacent walls and counter must be cleaned.
- b) Clean the area that is soiled (remove solids and soak up liquid waste).
- c) Apply the disinfectant (see below) according to procedures approved by the original equipment manufacturer and as instructed on the disinfectant manufacturer's label. Once the area is wet, use paper towels to clean the area, and discard paper towels into the biohazard bag.
- d) Ensure adequate contact time between the disinfectant and the surface for destruction of microorganisms.
- e) Adhere to any safety precautions as directed (e.g. ensure adequate ventilation in confined areas such as lavatories and avoid splashing or generating unintended aerosols).

31. PROCEDURE FOR CHANGING HEPA FILTERS BY THE MAINTENANCE TEAM

31.1 The following prevention and protection measures should apply when replacing a high efficiency particulate air (HEPA) filter:

- a) One should wear a particulate matter protection mask or medical protection mask, snood cap or disposable mop cap, goggles, disposable protective suits, medical rubber gloves and disposable shoe covers.
- b) The mask should be close to the face. Do not touch and adjust the mask, goggles and protective cap during operation;
- c) Avoid hitting, dropping, or shaking the HEPA filter and do not use compressed air to clean the filter;
- d) Used HEPA should be placed in a special plastic bag, disinfected with chlorine disinfectant and sealed;

- e) After the task is completed, the maintenance staff should disinfect the hands first, then remove the protective equipment in order, and then disinfect the hands again; and
- f) Discarded disposable protections should be placed in dedicated plastic bags and sealed for centralised disposal.

32. MANAGEMENT OF MEDICAL WASTE & DISPOSAL

- 32.1 A designated cabin crew must to ensure that the following takes place:
- a) Carefully place all contaminated items inside a biohazard bag (or plastic bag labeled “biohazard” if none available);
 - b) Tie or tape the bag shut securely to avoid leaking;
 - c) Keep the bag in a secure place until it can be safely collected for disposal; and
 - d) The waste material will be handed over to the competent Port Health Authority on arrival for disposal.
- 32.2 All waste or other materials used by the ill passenger should be stored separately in a sealed biohazard bin.

33. SAFELY MANAGING WASTEWATER AND FAECAL WASTE FROM THE AIRCRAFT

- 33.1 There is no evidence to date that the COVID-19 virus has been transmitted through sewerage systems with or without wastewater treatment. Furthermore, there is no evidence that sewage or wastewater treatment workers contracted Severe Acute Respiratory Syndrome (SARS), which is caused by another type of coronavirus that caused a large outbreak of acute respiratory illness in 2003. As part of an integrated public health policy, wastewater carried in sewerage systems should be treated in well-designed and well-managed centralised wastewater treatment areas. Workers should wear appropriate PPE, which includes:
- a) protective outerwear;
 - b) gloves;
 - c) boots;
 - d) goggles or a face shield; and
 - e) a mask.
- 33.2 Workers should perform hand hygiene frequently; and they should avoid touching eyes, nose and mouth with unwashed hands.

GUIDANCE FOR CREW PARTICIPATING TRASPORTATION OF PASSENGERS

- 33.3 Travel as a group in private transport provided by the operator when traveling between the airport and hotel and minimize contact with ground personnel and time in public areas while moving between the aircraft and the private transport.
- 33.4 Do not use public transportation, including when travelling between the airport and hotel.
- 33.5 Stay in your hotel to the maximum extent feasible and minimise going out into the general population and use social distancing (maintain approximately 2 meter if possible) whenever out in public.
- 33.6 Avoid crowds, stores, sporting or mass entertainment events, and other situations likely to attract large numbers of people. Wash your hands often with soap and water for at least 20 seconds or use at least a 70% alcohol-based hand sanitiser. Avoid touching your face. Self-monitor your health condition, following the guidance provided by your employer's aviation medical examiners or occupational health program.
- 33.7 Take your temperature with a thermometer twice a day and watch for cough or difficulty breathing.
- 33.8 Fever means feeling feverish or having a measured temperature of (38°C) or higher. Immediately report any fever, cough, or difficulty breathing to your employer's occupational health program.
- 33.9 Seek medical clearance before working your next flight segment.

34. HANDLING CARGO FROM AFFECTED COUNTRIES

- 34.1 To date, there is no epidemiological information to suggest that contact with goods or products shipped from countries affected by the COVID-19 outbreak have been the source of COVID-19 disease spread in humans. WHO will continue to closely monitor the evolution of the COVID-19 outbreak and will update recommendations as needed. The rationalised use and distribution of PPE when handling cargo from and to countries affected by the COVID-19 outbreak includes the following recommendations:
 - a) Wearing a mask of any type is required when handling cargo from an affected country;
 - b) Gloves are not required unless they are used for protection against mechanical hazards, such as when manipulating rough surfaces;
 - c) Importantly, the use of gloves does not replace the need for appropriate hand hygiene, which should be performed frequently;
 - d) When disinfecting supplies or pallets, no additional PPE is required beyond what is routinely recommended; and
 - e) Sanitising and cleaning of passenger and crew buses should be done regularly using standard disinfectant agents such as 70% alcohol,

hypochlorite or peroxide, and done on all high touch areas likely to be contacted by a person potentially unwell.

35. EMBARKATION AND DISEMBARKATION BUSES

- 35.1 The sequence of embarkation and disembarkation will depend on the location of the passenger relative to the doors and seat allocation and should be designed to minimize contact between passengers.
- 35.2 Buses used for embarkation and disembarkation of passengers should utilise a maximum of 70% of the allowable load and will be disinfected after off-loading.

36. TRANSPORTATION OF HUMAN REMAINS

This section must be read in conjunction with National Department of Health Regulations on Transport of Human Remains and approval must be sought from there.

- 36.1 Repatriation of human remains is the process whereby human remains are transported from the State where death occurred to another State for burial at the request of the next of kin. Repatriating human remains is a complicated process involving the cooperation and coordination of various stakeholders on several levels to ensure that it is conducted efficiently and in compliance with relevant international and national regulations.
- 36.2 Most airlines offer services for the transportation of cremated and non-cremated human remains; however, they require cooperation and coordination of various stakeholders to ensure that it is conducted efficiently and in compliance with relevant international regulations and national rules of the departure and destination States.
- 36.3 Key issues to be considered when managing COVID-19 human remains include:
 - a) Providing specific guidance for funeral directors, religious leaders or others who may have direct contact with COVID-19 human remains, especially the importance of hand hygiene and the use of personal protective equipment (PPE) when handling COVID-19 human remains;
 - b) Respecting the dignity of the dead and their families according to cultural and religious traditions;
 - c) Encouraging practices that balance the rights of the family, the need to investigate the cause of death and the risks of exposure to infection on a cases-by-case basis.

37. OPTIONS FOR AIR TRANSPORT OF HUMAN REMAINS

- 37.1 When a person has died from COVID-19, considerations for final disposition may include on-site cremation, interment at the location of death or repatriation of human remains to the State requested by the next of kin. Many aircraft

operators provide services for the transport of cremated and non-cremated human remains. These services vary according to the policies of each aircraft operator. In general, there are three possible options for the transportation of human remains by air:

- a) Remains or cremated remains contained in a funeral urn and this is often the least complicated option for air transport, however, this is dependent on the personal, cultural and religious beliefs of the bereaved as well as national legislation in the State where death occurred.
- b) Embalmed human remains enclosed in a sealed coffin and this option may be challenging since States may have opposing laws regarding embalming. Legislation in the departure State may not allow embalming, while the destination State may require embalming for receiving of the remains. In addition, some aircraft operators will only accept embalmed human remains.
- c) It should be noted that at the time of issue of this guidance document the WHO does not recommend the practice of embalming for COVID-19 remains to avoid excessive manipulation of the body.
- d) Human remains that have not been embalmed in an enclosed, sealed coffin. Specific requirements for this type of transport may vary from country to country, and State of destination or admission may not allow the export or import, as applicable, of non-embalmed remains.
- e) Different States might have different requirements. It is therefore important to consider several factors prior to deciding on the appropriate process for air transport. These factors include being aware of the applicable regulations and/or rules of the departure and destination States, including relevant documentation required, as well as the requirements of the aircraft operator.

38. REQUIREMENTS OF DEPARTURE, TRANSIT AND ARRIVAL STATES

- 38.1 All parties, including aircraft operators are required to comply with State legislation regarding transport of human remains of departure, transit and arrival States. These national legislations will ultimately determine the limitations, if any, associated with the handling, disposition, repatriation and admission of human remains. This information can be found on government or embassy websites or by contacting the States directly.
- 38.2 Formal identification of the deceased's remains is obligatory. The requirements for confirming the identity of a deceased person vary depending on the State or jurisdiction involved. In addition, the completion of required documentation is compulsory, confirming that all the medical, health, administrative and legal requirements of the regulations in force in the State of departure relating to the transfer of human remains have been complied with. This might include a death certificate, certificate of embalming, cremation certificate or any other certificate required by national legislation. If the documents are not in English or in the language of the destination State, it may be necessary to have them translated and certified.

- 38.3 Should a difference exist between the requirements of the departure and destination States, e.g. transporting non-embalmed human remains to a country where embalming is required, further bilateral discussions would be needed. This can be done by contacting the local authority of the destination State that mandates the human remains to be embalmed for confirmation of acceptance on a case-by-case basis.

39. REQUIREMENTS FOR AIR TRANSPORT

- 39.1 There are currently no universally agreed international regulations restricting transport of human remains by cargo aircraft only. Aircraft operators typically allow transport of human **remains** as cargo on aircraft, either on cargo-aircraft or in the cargo section of a passenger aircraft. Cremated remains may be shipped as cargo or may be carried by passengers as part of their baggage. Aircraft operators that are members of the International Air Transport Association (IATA) generally follow the IATA requirements and recommendations (the Air Cargo Tariff and Rules, TACT 2.3.3 and the Airport Handling Manual, AHM 333) on the transport of human remains. A summary of import restrictions on human remains enforced by different States is available in Appendix 3 and the publications can be purchased from IATA online (TACT www.iata.org/tact and AHM www.iata.org/ahm). The following are recommended to all stakeholders considering transport of COVID-19 human remains by air:

40. REQUIREMENTS FOR CREMATED REMAINS

Cremated human remains (cremains) are usually accepted in any aircraft without advance arrangements, but some States require that cremains be declared prior to travel. The ashes should be placed in a polyurethane bag and then enclosed in a funeral urn.

41. THE URN

- a) Can be transported in either carry-on baggage or checked baggage. Policies might vary, and it is recommended to confirm with the States and aircraft operators concerned;
- b) Must be efficiently protected against breakage by cushioning packaging; and
- c) Will be subject to X-ray screening as part of the normal security procedure. The security measures applied to powder-like substances will have to be checked ahead of the travel for the State of origin and the potential subsequent connections.

42. REQUIREMENT FOR EMBALMING

- a) WHO currently does not recommend embalming where the cause of death was COVID-19.
- b) However, it might be a requirement of the destination State and the aircraft operator transporting the human remains.

43. PREPARATION OF NON-EMBALMED HUMAN REMAINS FOR AIR TRANSPORT

- a) Staff preparing the body should wear appropriate PPE and prepare the body using standard precautions;
- b) Ensure that body fluids leaking from cadaver orifices are contained and/or rendered non-infectious using the following methods:
 - i. Sprinkle the cadaver with special absorbent (e.g. Ardol) for binding and disinfection of leaking body fluids of the corpse;
 - ii. Wrap the body in two cloths soaked in formalin (10% solution) or any other suitable disinfectant;
 - iii. Seal the body in a leak-proof body bag or similar hermetically sealed inner containment;
 - iv. The exterior of the inner containment needs to be disinfected; and
 - v. The sealed and disinfected containment then needs to be placed into a second hermetically sealed inner containment, the exterior of this inner containment also needs to be disinfected, and then sealed in a coffin.
- c) After being sealed, the exterior of the coffin needs to be disinfected;
- d) The coffin may be covered in tarpaulin so that the nature of its content is not apparent; or in another containment device, subject to the legislative requirements of both the departing and receiving States;
- e) A certificate detailing the date, time and manner of disinfection must be issued by the undertaker or funeral director and submitted to the freight forwarder/aircraft operator; and
- f) Acceptance of coffins by aircraft operators is dependent upon the type of aircraft, requirements of entry and clearance and prior approval of the States of origin, transit and destination.

44. DOCUMENT REQUIREMENTS TRANSPORT OF HUMAN REMAINS

- 44.1 Documentation requirements might be different for different States. It is recommended that these requirements are confirmed with both the State of departure and State of destination prior to arrangement of transport with the aircraft operator and be submitted to the freight forwarder/aircraft operator for arrangement of transport. This might include a death certificate stating cause of death, certificate of embalming, cremation certificate, import permit or any other certificate required by national legislation.

- 44.2 There might be a requirement that when embalming of the body has been performed, that the certificate of embalming (or Laissez-Passer) must be sealed in the coffin with the body.
- 44.3 The person requesting transfer of the remains, should obtain a certificate from the funeral parlour or mortuary regarding the procedures that have been followed and submit these certificates to the freight forwarder/aircraft operator who would be required to submit it to the Public Health Office at the destination State. This would either be an embalming certificate, or a certificate that the body has been enclosed in a double-body bag.
- 44.4 In addition, a certificate confirming disinfection of the coffin must be issued by the mortuary and submitted to the freight forwarder/aircraft operator.

45. COVID-19 TESTING

45.1 Polymerase Chain Reaction Testing

- a) Mainstay of testing for current infection (presence of virus) is a Polymerase Chain Reaction (PCR) test. It involves taking a swab of the upper throat. Such testing has a recognised false negative rate.
- b) Some States require this test prior to departure.

46. ANTIBODY TESTING

- a) Research groups are developing serological (antibody) tests for COVID-19.
- b) Typically use a blood sample which can be obtained from a finger-prick.
- c) Detection of antibodies early on can confirm current or recent infection and later on, can confirm immunity
- d) Current advice is that there are no validated and reliable antibody tests and research is ongoing.

47. IMMUNITY PASSPORTS

- a) Immunity passports is that if someone can be documented as having recovered from COVID-19 they are presumed to be immune.
- b) The medical certificate to confirm full recovery and other travel documents like (visa and other documents) would grant one immunity.
- c) Concept arises from the fact that once someone has recovered from a viral infection and the person will normally retain immunity.
- d) Animal and human studies suggest that immunity once obtained will be retained at least for some months.
- e) WHO has published a paper that stipulates that the issue of immunity passport is currently being researched as there is limited data.

48. PRE-FLIGHT BRIEFING

It is recommended that procedures be reviewed to ensure that cabin crew are not required to place demonstration equipment such as oxygen masks and life vest mouthpieces to their mouth and nose. When demonstrating the use of oxygen masks, passengers should be reminded that protective facial masks if worn, should be removed. Passengers may need to be reminded within safety briefings of the need to remove facial masks in the event of a depressurisation before fitting oxygen masks. Additional announcements may be necessary where passengers are required to complete passenger locator information during flight for tracking and tracing of contacts. Initial health briefing from senior cabin crew member regarding coronavirus should, as a minimum, encompass the following:

“Thank you for volunteering to participate in this charter due to unique and special circumstances we find ourselves in with the current outbreak of corona virus. It is a privilege, honour and humbling to be able to assist our South African Guest to take them home or return our citizens home. This mission is vastly different to your usual cabin crew work – whilst we train you in standard operations and non-normal operations, this charter will see another level of non-normal.”

“Crew has had to change the way they do their normally work, this includes how they enter and leave the premium and economy cabins, how passengers board the aircraft, how additional resources will be positioned through the aircraft during boarding and disembarkation, how the service will be conducted, etc. All communication will be managed through the Captain CSM/ CSS. Crew has been trained on how to put on and remove PPE correctly, which will be face masks and gloves. You will also be instructed when to undertake use of hand sanitisers and hand washing techniques, these methods are all in place to ensure your safety and wellbeing.”

“Cabin Crew will assist and demonstrate how to use PPE, please take this seriously and maintain the practices taught to you at all times. If you have any questions or concerns, please ask anyone on the medical teams. The aircraft will be set up with PPE stations and plenty of hand sanitiser throughout the aircraft, washing hands frequently should occur whenever possible. You will also be allocated masks individually, please note that masks will be changed 4 hourly or when the mask becomes damp or wet. Any passenger who feels unwell must notify cabin crew member closest to them.”

“There will be areas designated for putting on and removing PPE. There will be a very prescriptive way in which food will be served in economy and collected. Passengers will be provided with clinical waste bags in each seat pocket, these will contain masks, hand sanitiser, border force paperwork. All toilets in economy will be used by passengers.”

“The mask should cover the nose and mouth completely, leaving no space. During in-flight service and when removing the mask, the crew should not touch the outside of the mask with their hands to avoid contaminating their

hands. The facial masks should be changed with new ones as soon as they are damp or contaminated and hands should be cleaned with sanitiser both before and after the replacement. The crew and passengers should use alcohol-based disinfection wipes to clean and disinfect their hands. When the crew and passengers are not sure whether their hands are clean, avoid touching the nose, mouth and eyes with hands. When sneezing or coughing, one should try to lower the head or turn away from passengers and crew members nearby and cover the mouth and nose with tissue or flexed elbow. After touching or disposing wastes, hands should be cleaned with soap or hand sanitiser under running water followed by hand.”

49. EFFECTIVE DATE AND AMENDMENT

These Guidelines are effective immediately on date of approval by the Director for Civil Aviation and are subject to change at the discretion of the Director of Civil Aviation.

Poppy Khoza
Director of Civil Aviation

Date: